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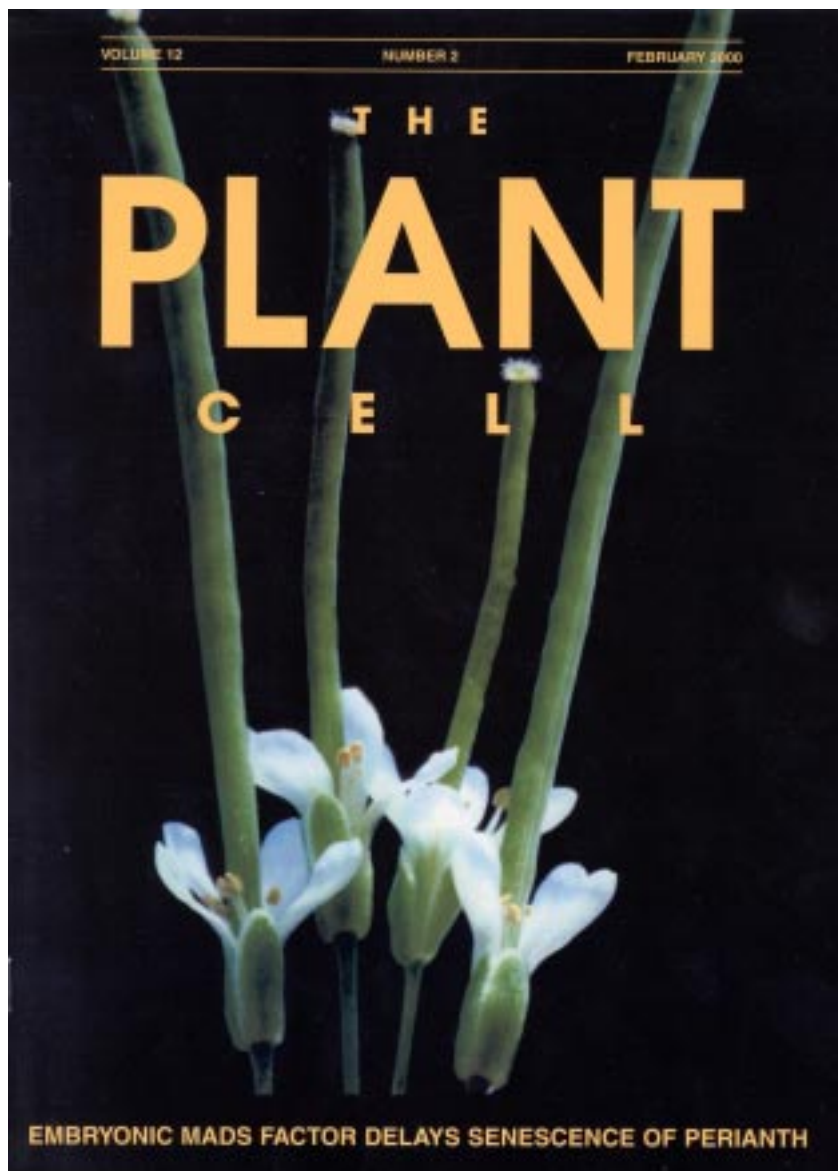


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# Cover Stories:

## Major Scientific Publications Featuring NRI-funded Research



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*Donna E. Fernandez,  
Gregory R. Heck, Sharyn  
E. Perry, Sara E.  
Patterson, Anthony B.  
Bleecker, and Su-Chiung  
Fang, Department of  
Botany, University of  
Wisconsin, Madison. 2000.  
The Embryo MADS  
Domain Factor AGL15  
Acts Postembryonically:  
Inhibition of Perianth  
Senescence and Abscission  
via Constitutive Expression.  
**The Plant Cell** 12 (2):  
183-197.*

**D**evelopmental processes such as senescence and abscission contribute significantly to crop losses by limiting the longevity of floral organs, fruits, and leaves. In work sponsored by the USDA-NRI Plant Growth and Development Program, Fernandez et al. discovered that accumulation of AGL15 (AGAMOUS-Like15), a regulatory factor preferentially expressed in developing embryos, could dramatically increase the longevity of organs in the *Arabidopsis* flower. Petals and sepals normally fall off three days after the flowers open. When excess AGL15 is present, the sepals and petals live for up to three weeks, and remain on the plant throughout the period of fruit development. The plants are still sensitive to the plant hormone ethylene, so abscission can be induced at any time during the three-week period by exposing the plants to ethylene. This research may ultimately lead to the design of strategies to enhance floral displays in ornamental species or strategies for more efficient harvesting through controlled abscission.

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